PES-0033

IN THE SPECIFICATION

Please substitute the following paragraph for paragraph [0052].

[0052] In addition to the power that passes out of the regen-system 1 via the power load 40, heat energy may be recovered from the regen-system 1 with a heat exchanger 50 and/or radiator 52. The heat exchanger can be disposed in fluid communication with both the fuel cell module 12 and the electrolysis module 10 such that the heat produced in the electrolysis module 10 can be employed to heat the fuel cell module 12. Alternatively, or in addition, the heat exchanger can be in thermal communication with the surrounding environment, or can be directed to a thermal load; e.g., a building (such as an office building(s), house(s), shopping center, and the like).

Please substitute the following paragraph for paragraph [0059].

[0060] The fuel cell module 12 operates until the hydrogen source is depleted or other control system inputs indicated that power 40 generation is no longer desired. When power 42 is available, or when power 40 generation is desired (e.g., in peak-shave type applications), the electrolysis module 10 can be operated to provide hydrogen directly to the fuel cell module 12 or to replenish the hydrogen storage device(s) 4,14. Electrolysis module operation comprises directing water to the electrolysis module 10. Water can be introduced to the electrolysis module 10 directly from the water storage device 16, or can be introduced to the electrolysis module 10 via the fuel cell module 10 12. Preferably, water from the water storage device 16 passes through the fuel cell module 10 12, as a coolant, and into a heat exchanger/radiator 50/52. From the heat exchanger/radiator 50/52, the water passes through an optional deionization bed 62 and to the water electrode of the electrolysis module 10. In the electrolysis module 10, the power supplied to the electrolysis cell via power source 42 and optional power conditioner 44 enables the disassociation of the water to hydrogen ions and oxygen gas. The oxygen gas, along with excess water are directed to the oxygen/water phase separation device 66, while the hydrogen ions, and some water, migrate across the electrolyte to the hydrogen electrode where the hydrogen ions form hydrogen gas. From the electrolysis module 10, the hydrogen gas and water can be directed to an optional hydrogen/water phase separation device 36, and then the hydrogen can either be directed to the fuel cell module 12 or to an optional dryer (e.g., dehumidifier, dessicant or the like) 38 and into the hydrogen storage device(s) 4, 14. Depending upon the desired storage pressure of the hydrogen and the hydrogen side pressure of the electrolysis module 10, a compressor 65 may optionally be employed to increase the hydrogen pressure prior to introduction to the hydrogen storage device. Additionally, pressure reducing devices and associated accumulation devices may be used to stabilize and regulate to inlet pressure to the compressor.